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A Critical Assessment of Seven Reports on Financial Reform: A Minskyan Perspective, Part III:

G30, OECD, GAO, ICMBS Reports

by

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ABSTRACT

This four-part study is a critical analysis of several reports dealing with the reform of the financial system in the United States. The study uses Minsky's framework of analysis and focuses on the implications of Ponzi finance for regulatory and supervisory policies. The main conclusion of the study is that, while all reports make some valuable suggestions, they fail to deal with the socioeconomic dynamics that emerge during long periods of economic stability. As a consequence, it is highly doubtful that the principal suggestions contained in the reports will provide any applicable means to limit the worsening of financial fragility over periods of economic stability. The study also concludes that any meaningful systemic and prudential regulatory changes should focus on the analysis of expected and actual cash flows (sources and stability) rather than capital equity, and on preventing the emergence of Ponzi processes. The latter tend to emerge over long periods of economic stability and are not necessarily engineered by crooks. On the contrary, the pursuit of economic growth may involve the extensive use of Ponzi financial processes in legal economic activities. The study argues that some Ponzi processes—more precisely, pyramid Ponzi processes—should not be allowed to proceed, no matter how severe the immediate impact on economic growth, standards of living, or competitiveness. This is so because pyramid Ponzi processes always collapse, regardless how efficient financial markets are, how well informed and well behaved individuals are, or whether there is a "bubble" or not. The longer the process is allowed to proceed, the more destructive it becomes. Pyramid Ponzi processes cannot be risk-managed or buffered against; if economic growth is to be based on a solid financial foundation, these processes cannot be allowed to continue. Finally, a supervisory and regulatory process focused on detecting Ponzi processes would be much more flexible and adaptive, since it would not be preoccupied with either functional or product limits, or with arbitrary ratios of "prudence." Rather, it would oversee all financial institutions and all products, no matter how new or marginal they might be.

See also, Working Paper Nos. 574.1, 574.2, and 574.4.

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THE GROUP OF THIRTY: FINANCIAL REFORM: *A FRAMEWORK FOR FINANCIAL STABILITY*

Summary

The report notes that the crisis has revealed major weaknesses at the institutional, market, regulatory, policy, and infrastructure levels in terms of weak credit appraisal and underwriting standards, extreme credit concentration, misjudged maturity mismatches, excessive use of leverage and off-balance sheet operations, overconfidence in market liquidity, weakness in regulatory and governance practices, and a flawed credit rating system.

The report also notes that the crisis has profoundly changed the financial sector by generating a strong concentration of financial companies. The Group is worried that this may lead to unfair competition, conflicts of interest and moral hazard (too big to fail argument); as a consequence, the report argues that large and complex bank holding companies need to be held to more rigorous standards of prudential regulation and supervision. In addition, intra-firm regulation should be focused on long-run performance, and "strong and independent risk management staffs" (Group of Thirty 2009: 19) should be created in conjunction with well-balanced compensation policies.

The main goal of the Group is to set up a regulatory framework oriented toward containing systemic risk and maintaining a close oversight of "systematically important" financial companies. According to the Group, a "systematically significant" institution is one that is of large size, that has an asset side composed mostly of illiquid assets and a liability side highly leveraged and composed mainly of short-term debts, that is highly interconnected in terms of size and range of OTC derivative market contracts and counterparty risk, and that performs services that are central to the stability of the economic system (clearing, settlement, and payment systems).

Given its diagnostic and core principles, the Group proposes four core recommendations. First, given that under-regulated and unregulated financial institutions were central for the emergence and spreading of the subprime crisis, and given the high concentration of financial activities, it is necessary to eliminate gaps and weaknesses in the regulatory structure and to reassess the role of the central bank. In terms of prudential supervision, government-insured deposit-taking institutions should have a single regulator, large banking institutions should not be allowed to enter activities (like private equity funds) that generate high risk and conflicts of

interest, and they should own a significant portion of the risk of the assets they securitized. Government-insured deposit-taking institutions should not be owned or controlled by unregulated financial organizations. In terms of non-bank financial institutions, their supervision should be consolidated, money-market funds should focus on providing safe placement options and should move their bank-like deposits off-balance sheet by creating a special purpose bank. Private pools of capital should be registered and those with a "size judged to be potentially systemically significant" (Group of Thirty 2009: 31) should be regulated in terms of capital, liquidity and risk management. Finally, government sponsored enterprises (GSEs) should be either completely privatized or fully public.

Second, the effectiveness of prudential supervision should be improved by eliminating overlaps, by allowing the central bank to collect information about systemic stability and to counter financial excesses through countercyclical regulatory and supervisory policies, by developing international coordination, and by defining leverage more precisely and collecting broad data that can be compared.

Third, institutional policies and standards must be improved by improving governance, risk management, and capital and liquidity requirements. In terms of governance and risk management, the previous policies and standards should be coordinated to meet the long-term interest of shareholders, and risk managers should be more independent and perform periodic reviews. In terms of regulatory capital standards, regulators must prevent the emergence of excessive risk taking in good times (Group of Thirty 2009: 42). They can do so by defining more accurately economic capital more relative to risk preferences. In terms of liquidity risk management, liquidity standards should be established and be based on a firm's capacity to maintain ample liquidity under stress conditions (Group of Thirty 2009: 44). Finally, in terms of fair valuation accounting, mark-to-market valuation is not adapted to financial institutions that fund illiquid assets with short-term funding, and it may have no relationship to expected discounted cash flows and may allow recorded gains unrelated to the capacity to run a business properly.

Fourth, one needs to improve the transparency and resiliency of markets, by restoring confidence in securitized markets through a careful monitoring of innovations, by reforming credit rating agencies to make sure that conflicts of interest are limited and by broadening the significance of the rating beyond credit risk, by overseeing CDS and OTC markets, and by

improving the transparency of structured products through a cooperation between regulators and security buyers to determine the appropriate information to provide (Group of Thirty 2009: 55).

Critical review

The report brings forward some important "weaknesses" that have contributed to the crisis but it does not try to explain how they came to be; rather it focuses on means to try to correct those problems. One of the focuses of the report is the reinforced attention that should be given to large financial companies, especially those that are government insured. The emphasis put on systemic stability is very welcome, and the recognition of the needs for authorities to orient their policy implementation toward achieving this goal is a breath of fresh air. Where the report probably does not go far enough is in recognizing that all financial institutions, big or small, government insured or not, new or old, need to be well regulated, and that a central criterion to judge if a financial institution is systematically relevant is the criterion of Ponzi finance.

The report emphasizes the importance of high maturity mismatch and new leverage as criteria to define a systemically relevant institution; however, it does not tell us what "high" means, which can lead to two problems. First, a "high" leverage ratio may in fact be perfectly sound if cash flows from liabilities can be met by net cash inflows from operational assets. As Minsky noted, the leverage ratio and the debt-to-income ratio are too narrow in their measurement of financial fragility:

> Inasmuch as the nature of mortgage debt changed markedly between 1929 and 1962, the larger household debt-income ratio in 1962 may not indicate a greater sensitivity to a shock. (Minsky 1963 (1982): 10)

What we really would need (and that is not available for the moment) is a measure of cash flow ratios or cash-flow mismatch. It is not just a question of maturity but also, and mainly, a question of the size of the cash inflow relative to the size of cash outflows. Thus, setting arbitrary leverage ratios can lead to regulatory practices that are too restrictive.

Second, setting an arbitrary regulatory leverage ratio leads financial companies that meet the ratio to be strongly reluctant to more careful examination. This may not only push regulators and supervisors to become more lenient in front of strong political pressures, but also may lead regulators to believe that everything is fine when the financial situation of companies is worsening fast. Thus, concerns about financial stability should be permanent, especially when

the economy is doing well. “Normal/wise” growth of credit, “normal/wise” use of leverage, relative to an arbitrary ratio, should be of great concern because stability leads to instability by leading to Ponzi financial practices that may be hidden, or lagged, by data. What matters is not the normality relative to a trend but the types of financial practice; in fact, it is during periods of time when all ratios seem appropriate that Ponzi financial practices usually emerge. This is even more so where financial companies have mastered so-called “creative” accounting, i.e. frauds.

Similarly, the criteria of size or government insurance are not appropriate to determine a systematically relevant institution. For example, for the regulation of private equity funds the report states that:

> For funds above a size judged to be potentially systemically significant, the prudential regulator should have authority to establish appropriate standards for capital, liquidity, and risk management. (Group of Thirty 2009: 31)

This criterion of size, while obvious for the largest institutions, is hard to implement for other institutions. In addition, even small institutions can be systematically significant. As the mortgage crisis has shown, thousands of small unregulated loan brokers encouraged both prime and non-prime borrowers to take mortgages at terms that were Ponzi. All financial institutions should be regulated independent of size or government insurance. This is all the more so that Ponzi processes tend to emerge first in unregulated areas (that are not government insured), and that Ponzi processes are an intrinsic result of economic stability. Thus, moral hazard should *not* be the main focus of regulation and supervision because non-insured institutions can be a source of Ponzi finance. Rather the focus should be the emergence of financial practices that rely on liquidation and refinancing as a means to complete financial deals. This will set up the right conditions for the emergence of what Minsky called “systemic moral hazard” (Campbell and Minsky 1987: 257). The latter results from the fact that the greater economic stability provided by big government encouraged to take more risk and reinforced the dynamics induced by economic stability:

> One achievement of deposit insurance, along with stability provided by fiscal and monetary policy, has been to decrease the risk aversion that can be a barrier to investment and which can prevent the economy from realizing a close approximation to full employment. By stabilizing the flow of deposit liabilities into and out of deposit institutions, deposit insurance facilitates the financing of long term investments with

> short term instruments. But attenuation of risk aversion involves systemic moral hazard. As the risk aversion of entrepreneurs, financiers and the ultimate holders of assets is diminished, the likelihood increases that payoffs by the insurance agencies will be needed. (Campbell and Minsky 1987: 257)

Thus, it is not a question of just insured vs. non-insured companies, all financial institutions and non-financial institutions, as well as households, are drawn into taking more risk, and ultimately excessive risk, because of the greater economic stability provided by a big government. Thus, all financial institutions should be regulated.

The report correctly notes that we need to focus our attention more closely on accounting for systemic risk through more accurate data and through a better fair valuation process. For example, the report notes that market-to-market valuation generates the "ability of distressed institutions to increase their reported earnings by marking to market of certain of their own liabilities as the credit risk on their debt has increased" (Group of Thirty 2009: 44). If there was a cash-flow oriented supervision and regulation of financial institutions and of the aggregate economy, the size and growth of this type of "earnings" could be detected very rapidly and considered dangerous and could allow regulators to intervene fast. The S&L crisis is a very good example of that with companies self-righteously and loudly rebuffing more supervision on the basis that the companies were profitable, when the source of this profitability was a Ponzi process (Black 2005). As already noted earlier, profitability has nothing to do with the capacity to run a healthy business, even the most financially rotten institution can return huge profits. What we need is an understanding of the sources of cash inflows and sources of cash outflows, as well as of the position-making practices.

A similar idea should be applied to financial innovations before they are included in the economy. Even though the report recognizes, contrary to other reports, that regulators have a role to play in the information provided to financial investors, it is not enough to disclose more information about financial risk because the willingness to take risk changes over time. Ponzi financial innovations should not be allowed to exist in the first place because they are unsustainable, even if financial institutions have the full information available to access risk involved and even if they are "highly sophisticated."

Finally, the report assumes that the high concentration of the financial industry is more or less a done deal (Group of Thirty 2009: 26). However, especially now that most big financial

holding companies are insolvent, the government could intervene to break them down and make them easier to supervise and to regulate, while also making sure that their overall business structure and culture are coherent. The breaking down of companies could be made in order to promote competition, but, and this is another weakness of the report, competition also contains dangers. Too much competition leads to a *fuite en avant* to obtain market shares by all means, legal or illegal. Thus, we need smaller institutions but we also need constructive competition, i.e., competition that gives the incentive to generate welfare gains for society. Smaller institutions would also be much easier to regulate and to supervise, and this should be an essential criterion to set a maximum size limit to financial institutions; if supervisors cannot supervise a company properly, do not allow it to merge with, or acquire, other companies. In order to limit constraints on economic growth, this would imply increasing the staffing and education of supervisors.

The current crisis is putting a lot of pressure on regulators and supervisors to perform better and to perform complex stress tests. But regulatory and supervisory institutions have been understaffed, under-qualified, underfunded and undermined which has prevented an effective supervision. Government institutions must be able to attract the best minds:

> To be effective, the SEC cannot afford to be less talented and educated than the industry, and I would argue it can't even strive to be as good as the industry, it needs to be better! (Markopolos 2009: 42)

This implies raising salaries significantly, increasing the information provided to regulatory institutions, and giving them broad powers, while also making them fully accountable to the public (in the sense that it performs the task it was set up to perform independently of socio-political pressures not to perform this task). In addition, senior regulators and heads of regulatory institutions should have most of their career behind them, and should have enough experience to understand that systemic stability is not a given. This would allow regulatory institutions to be more independent from the financial sector because the top managers would not have an incentive to be lenient in order to be sure to find a good job back in the financial sector, or somewhere else.

ORGANISATION FOR ECONOMIC CO-OPERATION AND DEVELOPMENT: *STRATEGIC RESPONSE TO THE FINANCIAL AND ECONOMIC CRISIS*

Summary

The report focuses on two major areas where the OECD thinks significant changes should occur. The first area concerns finance, competition and corporate governance, the second area concerns long-term economic growth.

In terms of the first area, the report notes that the current crisis "is the result of both market failures and policy failures" and that recent events "demonstrate the importance of a strong and effective regulatory framework and proper supervision" (Organisation for Economic Co-operation and Development 2009: 9). Thus, sound regulatory framework and sound governance are necessary. For that to happen, capital requirements, rewards (net of tax) and regulations must be set appropriately in order to give an incentive to make decisions consistent with the long-term interest of shareholders, to avoid procyclical regulations and to avoid gaps in the regulatory framework. In addition, given that the crisis has led to a consolidation of the financial system "competition may be weaker, leading to higher costs of credit and other financial services to consumers and businesses" (Organisation for Economic Co-operation and Development 2009: 10). Thus, it is important to restore and to maintain a highly competitive market structure in order to promote "innovation, competitiveness and productivity." Finally, consumer protection and education should be improved to make sure that individuals can understand the financial risks involved.

In terms of long-term growth, the best way to promote it is to avoid protectionism, to keep "sound macroeconomic, fiscal and labor market policies for stability and resilience," and to promote innovation-led recovery and others. The report notes especially that:

> Policy makers will have to be very attentive to medium-term inflation trends and unsustainable accumulations of government debt. Correction of the extraordinary monetary easing implemented almost everywhere will have to be swift as recovery gets underway […] medium-term challenge is to shift more forcefully from macroeconomic policy pro-cyclicality to strong, explicit counter-cyclicality, in order to reduce the likelihood of future bust and booms. (Organisation for Economic Co-operation and Development 2009: 13)

In addition, the report notes that:

> However, it must be kept in mind that such massive intervention could produce very undesirable consequences in the medium run by distorting the incentive structure for households, firms, and financial intermediaries […] It could also distort the structure and size of government budgets and debt, endangering fiscal sustainability and reducing resources for long-term growth (Organisation for Economic Co-operation and Development 2009: 13)

As a consequence, the OECD recommends a "timely, targeted, and temporary" government intervention (Organisation for Economic Co-operation and Development 2009: 13).

Critical review

Like most of the previous reports, the OECD report recognizes the need to have a more balanced approach to regulation compared to what has prevailed for the past 30 years. However, the emphasis on competition and innovation as the source of all good things is inappropriate. We have seen previously that too much competition promotes sloppy underwriting standards, unsafe and unreliable financial innovations, and a *fuite en avant*. What we need is not more competition but better competition, i.e. competition that rewards meaningful innovations and that prevents hurtful financial practices. Having a patent system would help to do that if the latter was provided by the government on the condition that a financial product would not promote Ponzi finance. Not all financial innovations are good for economic growth and competitiveness as the current crisis clearly illustrates. Other methods of intervention that discourage and forbid lenient decisions made for the sake of gaining or maintaining market share should also be promoted. This is all the more so that over a period of good times, market mechanisms force financial institutions to take excessive risk and to become too lenient in their asset and liability managements.

The emphasis on consumer education and information is valuable but it will not prevent the emergence of financial instability because information is interpreted, and sometimes ignored, in the functions of the social mood and of pressures to meet targeted rates of return. In addition, better information reinforces the sense of control, which boosts confidence to take more risk without necessarily increasing the quality of decisions. This compounds the effect of competition and market-share pressures on risk aversion.

Regarding economic growth, the report clearly notes the importance of analyzing the medium- and long-term impacts of reliquifying the balance sheets of the private sector. However, for Minsky, this implies that a permanent and broad government intervention is necessary through regulation and supervision. Rather than inflation, the main worry is that highly liquid balance sheets, coupled with a period of stability during which profitability is judged reasonable, create very strong financial incentives to take too much risk (i.e., to enter into Ponzi finance processes and/or fraudulent/overly optimistic hedge finance processes). Minsky noted that the long period of stability following World War II was not a period with high inflation but rather one when financial institutions tried to find ways (and did find ways) to leverage their enormous cash and T-bond reserves. They did so to a point that financial crises progressively became more and more frequent (Minsky 1983). Thus, the government needs to intervene continuously against the emergence of Ponzi financing, even when the private sector, and politicians, are hungry for high economic growth in order to regain the ground lost during a recession. Moreover, rather than a question of fiscal sustainability as defined arbitrarily in terms of an arbitrary ratio of public debt to GDP or other criterion, the federal fiscal position should be left whatever it needs to be (surplus or deficit) given the financial needs of the domestic private sector and the rest of the world (Wray 2003). Sound Finance is not a good way to understand government financial and accounting operations. The federal government finances are different from business or household finances and usually must be in deficit in order to meet the net saving needs of private domestic entities and of the rest of the world. Finally, when setting fiscal and monetary policy agenda, financial stability should be a central matter to account for. Fiscal surpluses drain funds out of the private sector and contribute to the weakening of economic entities, which contributes to the growth of financial fragility. This is all the more so that politicians love to set goals to reach a surplus, especially when the economy has been doing well for a while. Similarly, when the central bank raises its interest rate to fight inflation, this contributes to financial fragility and this should be put in the balance before moving interest upward too rapidly. A fragile financial system is not conducive to active monetary policy, which unfortunately members of the Federal Open Market Committee have tended to ignore (Tymoigne 2009).

Finally, the question of aligning the compensation and risk management systems to the shareholders interest is problematic for two reasons. First, for the purpose of financial stability, what matters is not the interest of a particular group or the achievement of specific objectives. Systemic stability is what matters and should be the paramount goal to achieve independently of

the interest of anybody because systemic stability is required for the fulfillment of the interest of specific categories of individuals. Thus, rather than the shareholders' interest what should matter is the capacity to create compensation and risk management systems that allow a company to continue to operate as a going-concern. Second, not only are going-concern and shareholders' interest misaligned, but the creation of derivative contracts, like credit default swaps (for bondholders) and equity default swaps (for shareholders), has created perverse incentives that may encourage stakeholders to wish a company would become insolvent:

> One key assumption is that creditors generally want to keep a solvent firm out of bankruptcy and (apart from intercreditor matters) want to maximize the value of an insolvent firm. These assumptions can no longer be relied on. Credit default swaps and other credit derivatives now permit formal ownership of debt claims to be "decoupled" from economic exposure to the risk of default or credit deterioration. […] There could, for instance, be a situation involving an "empty creditor": a creditor may have the control rights flowing from the debt contract but, by simultaneously holding credit default swaps, have little or no economic exposure to the debtor. The creditor would have little incentive to work with a troubled corporation for it to avoid bankruptcy. Indeed, if it holds enough credit default swaps, it may simultaneously have control rights and a negative economic exposure. In such a situation, the creditor would have incentives to cause the firm's value to fall. (Hu 2008: 6-7)

This compounds the problems that Veblen analyzed at the beginning of the 20th century in his *Absentee Ownership* and *Theory of the Business Enterprises*. We now have empty ownership, or "empty voting" for which "shares [have] voting rights, but [have] been emptied of the economic ownership that customarily accompanies those rights" (Hu and Black 2008: 634). This also reinforces the idea that capital equity is not a good protection against issues of moral hazard. In addition, empty voting creates additional doubts that mark-to-market can provide a meaningful measure of the solvency of a company. Indeed, financial market participants may have an incentive to undervalue a company in order to create a false sense of insolvency, even though the core business of a company may be strong.

GOVERNMENT ACCOUNTABILITY OFFICE: *A FRAMEWORK FOR CRAFTING AND ASSESSING PROPOSALS TO MODERNIZE THE OUTDATED U.S. FINANCIAL REGULATORY SYSTEM*

Summary

The GAO notes, quoting SEC Chairman Cox, that "the last six months have made it abundantly clear that voluntary regulation does not work." The report also notes that the current regulatory and supervisory frameworks are unable to deal with financial holding companies and systemic risk:

> The existing U.S. regulatory system is not well-equipped for identifying and addressing risks across the financial system as a whole. In the current environment, with multiple regulators primarily responsible for just individual institutions or markets, no one regulator is tasked with assessing the risks posed across the entire financial system by a few institutions or by the collective activities of the industry. (Government Accountability Office 2009: 22)

The current mortgage crisis has shown that numerous entities were involved in the boom process, some of them with no regulators. Thus, in addition to measuring risk for a specific product or activity, we need an enterprise-wide measure of risk and across-institutions approach to regulation and supervision. In addition, some hedge funds and other institutions (credit rating agencies and special purpose entities) need to be regulated and supervised more carefully, especially now that they play a crucial role in the financial sector (Government Accountability Office 2009: 29). The same applies to complex financial products, and regulators need to step up to the challenge of providing adequate consumer protection, if necessary by banning some products. However, the report also notes that banning financial products, while it can be done, is a difficult thing to do:

> Although the Federal Reserve took steps in 2001 to ban some practices, such as engaging in a pattern or practice of refinancing certain high-cost loans when it is not in the borrower's interest, it did not act again until 2008, when it banned additional products and practices, such as certain loans with limited documentation. In a 2007 testimony, a Federal Reserve official noted that writing such rules is difficult, particularly since determinations of unfairness or deception depend heavily on the facts of an individual case. (Government Accountability Office 2009: 43)

In addition, the process of judging the safety of financial products and of setting proper regulation, supervision, and accounting has been slowed by the need to coordinate among multiple regulatory agencies, and by the increasing complexity of financial products.

The GAO provides nine focus points for financial reform in order to improve regulation and supervision:

> Making changes that better position regulators to oversee firms and products that pose risks to the financial system and consumers and to adapt to new products and participants as these arise would seem essential to ensuring that our financial services sector continues to serve our nation's needs as effectively as possible. (Government Accountability Office 2009: 48)

First, regulatory goals should be clearly defined and be focused, among others, on consumer protections, integrity and fairness of markets, safety and soundness of institutions, and stability of the overall financial system. Second, regulation should be "appropriately comprehensive," that is, it should concern enough institutions to meet the goals without "hampering innovation, capital formation, and economic growth" (Government Accountability Office 2009: 52). Third, there should be a system-wide regulator that identifies, monitors, and manages the risks of the entire financial system, whatever the institution or type of risk. "Such a regulator could assess the systemic risks that arise at financial institutions, within specific financial sectors, across the nation, and globally." (Government Accountability Office 2009: 54). Fourth, regulation should be flexible and forward looking in order to adapt to market innovations, but it should avoid "unnecessarily hindering innovation" (Government Accountability Office 2009: 54). Fifth, regulation should be "efficient and effective," that is, it should eliminate overlaps between institutions and should streamline regulatory enforcement and supervision. This implies better coordination among state and federal governments but also among nations. Sixth, consumer and financial-investor protection should be consistent, by providing more information and improving financial literacy, and by extending suitability requirements that security brokers must meet before recommending a security to a client. Seventh, regulators should be independent and accountable. Eighth, there should be a consistent financial oversight and transparency to limit negative competitive outcomes. Ninth, taxpayers' exposure should be minimal by making sure that regulators have good safeguards, notably by thriving to minimize systemic risk and attracting high quality staff.

Critical Review

This is a very stimulating report that contains valuable insights. The emphasis on system-wide risk and goal-oriented regulation is especially relevant as is the need to streamline regulation. There is a lack of a core principle, however, to give some guidance regarding how to reform regulation and to capture systemic risk. This becomes especially clear when the report notes that regulation should be proactive and adaptable:

> Important questions also exist about the extent to which financial regulators should actively monitor and, where necessary, approve new financial products and services as they are developed to ensure the least harm from inappropriate products. Some individuals commenting on this framework, including industry representatives, noted that limiting government intervention in new financial activities until it has become clear that a particular activity or market poses a significant risk and therefore warrants intervention may be more appropriate. (Government Accountability Office 2009: 54)

The fear is that by not letting all financial innovations have a trial period in the real world, we will hinder economic growth and competitiveness, and so standards of living. This leads to a suggestion that regulation should be reactive and should exist only when "significant risk" exists. This argument had been put forward previously not to regulate hedge funds, credit default swaps, and others financial practices. It usually has been reinforced by advocating the sophistication of financial investors:

> Because their participants are presumed to be sophisticated and therefore not require the full protection offered by the securities laws, hedge funds have not generally been subject to direct regulation. Therefore, hedge funds are not subject to regulatory capital requirements, are not restricted by regulation in their choice of investment strategies, and are not limited by regulation in their use of leverage. (Government Accountability Office 2009: 29)

Thus, even though the GAO advocates a proactive regulation, reactive regulation is reentering from the backdoor.

To avoid such problem we need a criterion that helps to decide which financial practices are safe or not *before they are implemented in the real world*. Minsky provides a clear criterion: Ponzi finance. If a financial product is Ponzi under any circumstances, it should be completely

forbidden. This will promote the competitiveness of financial companies over the long run by limiting the emergence of Ponzi processes. Competitiveness could be reinforced by allowing some financial institutions to operate in a protected market once their invention is certified to be safe for a specific category of customers (or all customers). That would give an incentive to companies to create relevant financial products that meet the needs of the productive system and that are safe to operate, which in turn would contribute to increase the competitiveness of all economic units. Once introduced, financial innovations and practices should be constantly monitored to detect and to eliminate any degenerative use. That is why a *complete* regulation of *all* financial institutions is necessary, without exception of size (too small to matter), novelty (too young to die), leverage (too few debts to be risky), or any other criterion.

INTERNATIONAL CENTER FOR MONETARY AND BANKING STUDIES: THE FUNDAMENTAL PRINCIPLES OF FINANCIAL REGULATION

Summary

The ICMBS report (hereafter Geneva report) starts with an analytical framework that provides the foundations for the regulatory recommendations presented in the rest of the report. The analytical framework relies heavily on the interaction between the value of asset prices (used as collateral and to measure net worth) and willingness to lend. On the upside, this ultimately leads to a boom period during which funding sources abound and markets are very liquid. On the downside, it leads to a debt-deflation process, which, coupled with domino effects (i.e. the fact that banks are interrelated in such a way that the failure of one institution leads to problems for others), transforms a liquidity crisis into a solvency crisis:

> When there is a generalised liquidity problem attempts to deal with it will lead to declines in asset values, creating a solvency problem, even where none existed before. In short, there is an internal amplifying process (liquidity spirals) whereby a falling asset market leads banks, investment houses, etc., to make more sales (deleveraging), which further drives down asset prices and financial intermediaries' assessed profit and loss and balance sheet net worth. (Brunnermeier et al. 2009: 5)

The report emphasizes especially maturity mismatch as a central cause of debt-deflation processes. Indeed, maturity mismatch creates a "funding liquidity risk," i.e. a risk that refinancing will not be available or will only be provided at higher cost (margin requirement goes up, rollover finance sources close down, etc.). This risk is especially problematic when market liquidity is low (i.e., when an asset cannot be sold at a "reasonable" price (Brunnermeier et al. 2009: 12)), because liquidation is the only solution left once funding sources disappear or become prohibitively expansive. Once liquidation starts, steep declines in asset prices follow, resulting in a further increase in funding risk and ultimately a complete breakdown of the financial system. The report notes that the funding and market liquidity are endogenous rather than exogenous and bank specific. Indeed, during a boom, markets are liquid and there is a tendency for financial institutions to increase the maturity mismatch because short-term funding is cheaper. On the contrary, during a downturn, the opposite occurs.

The Geneva report argues that the current international financial crisis shows the relevance of the previous concepts. In addition, the crisis shows that the risk of any economic

enterprise depends, not only on the intrinsic expected profitability of the project, but also on the way the latter is funded:

> One of the most critical lessons of this crisis is that, while regulators have been focused on asset quality, systemic risk has as much to do with how assets are funded. If two institutions have the same asset, but one funds with long-term debt and the other by borrowing overnight from the money markets, there is a substantial difference to the potential for systemic risk. (Brunnermeier et al. 2009: 38)

At the same time, however, the report notes that "current regulatory rules make little distinction between how the same assets are funded" (Brunnermeier et al. 2009: 38) and only focus on credit risk, or other aspects internal to each company taken in isolation. It is important to take into account systemic risk because, decisions that may be rational at the individual level in order to maintain competitiveness can generate a great deal of systemic risk:

> From an individual bank/micro perspective, it was reasonable and efficient for each bank to assume that, in normal times, they would have access to the wholesale money markets. Once some banks made this assumption, banks that did not do so were put at a competitive disadvantage. […] At a micro-level this was not viewed as increasing risk, but reducing it by providing alternative and more flexible sources of funding. But the exploitation of market access by almost all banks in normal times, increased the likelihood of disaster in abnormal times. (Brunnermeier et al. 2009: 6)

Increasing reliance on refinancing may be necessary to maintain market share and, as a consequence, is seen as wise even though financial interdependences increase dramatically. In addition, AAA-rated assets are more sensitive to systemic risk because of their nature (only great economic troubles lead to default) and because of the greater potential of rating migration and increase in capital requirement in case of problems (Brunnermeier et al. 2009: 6ff.), which increases the potential strength of the downward spirals presented above.

Given this framework of analysis, the central recommendation of the report is that much more attention should be given to systematic risk induced by the financial practices of individual financial institutions:

> The current philosophy of banking regulation—that you can make the system safe by making individual institutions safe—is an unsatisfactory basis for insuring systemic stability. (Brunnermeier et al. 2009: 37)

Because the funding method of assets is crucial to determine systemic risk, the report argues that a good way to account for systemic risk would be to include the former in financial regulation. This could be done by accounting for systemic risk in the calculation of capital and liquidity requirements, which "are the main staple of financial regulation" (Brunnermeier et al. 2009: 45). The report proposes do so through two main tools. The first is a change in capital requirements in order to make it countercyclical, and the second is a change in the valuation procedure of assets called mark-to-funding. Overall, this would allow to put in place a "'lean against the wind' risk-management approach" (Brunnermeier et al. 2009: 30).

In order to make capital requirements counter-cyclical, the report proposes to make them sensitive to proxies related to funding liquidity risk. More specifically, the capital adequacy ratio (CAR) should be set as follows:

$$CAR_t = CAR_{min} \times \beta(\text{leverage ratio}_t, \text{maturity mismatch}_t, \text{expected credit expansion of the bank}_t, \text{asset-price expansion}_t)$$

With β positively related to the variables in the parentheses. Through this means, capital adequacy ratios will limit the possibility of large upswings "by encouraging banks to find long-term funding, and [by dissuading] them from greater leverage" (Brunnermeier et al. 2009: 41) as systemic risk increases, which will also limit the risk of large downswings. In order to implement this tool, the report notes that the sensitivity of CAR to those variables will have to be determined properly and that:

> The current crisis inevitably calibrates our sense of what is an adequate degree of safety. Ten years ago, ensuring that funding maturities would allow institutions to survive a few weeks in the face of a disruption to money markets was considered adequate. In the 2007-08 crisis, wholesale money markets have been more or less closed for many borrowers for over a year. (Brunnermeier et al. 2009: 42)

The report also notes that the calculation of value-at-risk should be complemented with CoVaR which means that:

> For determining which institutions are likely to experience distress in case of a systemic event, we condition the VaR of each institution on the event that the index return of the financial sector is at its VaR level. Note that the likelihood of being in distress in case of a systemic event depends to a large extent on the institution's funding strategy (leverage, maturity mismatch, etc.) in addition to its asset holdings. To address the question to what

> extent a particular institution contributes (in a non-causal sense) to the overall systemic risk (by being in distress when there is a system-wide distress), we reverse the conditioning. In this case, an institution's CoVaR is defined as the VaR of the whole financial sector conditional on this institution being in distress. The difference between the CoVaR and unconditional financial industry VaR, ΔCoVaR, captures the marginal contribution of a particular institution (in a non-causal sense) to the overall systemic risk. (Adriany and Brunnermeier 2009: 2)

CoVaR and other risk measures should be calculated mostly "by using primarily *past 'crisis data'* and underweighting recent and current data" (Brunnermeier et al. 2009: 31).

In order to measure the mismatch the report proposes to use the effective mismatch between asset maturity and funding maturity (Brunnermeier et al. 2009: 41ff.). For liabilities, the effective maturity is usually the contractual time to maturity; however, for some demand liabilities (e.g., checking accounts), the effective maturity is better measured by looking at average withdrawals during stress periods rather than at the fact that those liabilities have an immediate maturity. For assets, they should be classified in function of their effective maturity, which would be measured in terms of the time necessary to sell them in a stressed environment and, for fully illiquid assets, on their time to maturity. Thus:

> If an asset can be sold to the central bank in a day and is funded with overnight borrowing, there is no maturity mismatch. On the other hand, if a twenty year mortgage may be sold in approximately 24 months, and is funded with overnight money, there is a significant maturity mismatch. (Brunnermeier et al. 2009: 42)

The second main recommendation of the report is to develop a mark-to-funding valuation procedure for assets. This procedure specifies the valuation-timeframe of an asset in function of the way it is funded. Indeed, whatever the intention of the asset holder in terms of asset position (speculation or operation), his "capacity to hold on to assets is driven by the maturity of the funding of the asset" (Brunnermeier et al. 2009: 39). If funding is done on a short-term basis, there is a risk that this funding will evaporate and that the asset has to be sold immediately; therefore:

> if a bank has funded its twenty-year assets with one-month or shorter-term borrowings, then whatever their intention, they should value the asset using current market prices. If, however, the asset is funded with the issuance of a 10-year bond, the asset can be valued

> by a third party valuer (to ensure against fraudulent valuations) on the basis of the present value of the likely average price over the next ten years. In particular, this long-run valuation can place less weight on current daily price volatility and more on valuing the expected cash flows over the next ten years. (Brunnermeier et al. 2009: 39-40)

Even though this may not remove all the procyclicality and volatility of mark-to-market valuation, especially for banks with short-term refinancing sources, "this would be a fair reflection of the price risk the firm faces if funding is not rolled over" (Brunnermeier et al. 2009: 41).

These two-core recommendations are accompanied by others that usually are more or less in line with other reports. For example, the Geneva report notes the need to bring compensations in line with the interest of stakeholders and of the going concern of the company, and the need to create a clearing mechanism for OTC market of systemic importance. The report also endorses the recommendation of the Treasury to create a mortgage origination authority that sets appropriate standards to qualify borrowers. In addition, it would remove CRAs from the regulatory framework and, for monetary policy purposes, the Geneva report recommends including asset prices into a broader measure of inflation.

Critical Review

This report, written by academic economists, is, by far, the most technically advanced and the richest in its theoretical underpinning. The report has many similarities with the Minskyan framework, among those are the importance of funding methods, the interaction among collateral value and lending, and the inconsistency of risk at the micro and macro level (what is safe and makes sense at the individual level may generate great systemic instability). The fact that the funding method is crucial to the success of an economic project was recognized a long time ago by Minsky and, contrary to what the report states, the current crisis does not provide anything new at this level:

> It is impossible to draw a meaningful investment demand function without simultaneously specifying the liabilities that will be emitted. (Minsky 1967: 47)

> A commandment for creating economic theory that is relevant for capitalist economies is: "Thou shalt not dichotomize" between the presumably real and the financial spheres of the economy. (Minsky 1990: 212)

The importance of financial issues (solvency, liquidity, monetary gains and losses) for economic activity is a novelty only for economists that believe in the neutrality of money. Minsky rejected this hypothesis from the very beginning of his career; money is never neutral is his framework because entrepreneurs are interested in making a monetary profit for the sake of the monetary profit. Output gains are of secondary importance for businessmen and, as Veblen argued, the sabotage of the production process may be a requirement to maintain *monetary* profitability.

The importance of financial aspects directly leads to the financial instability hypothesis and Minsky (like Fisher (1933) and Veblen (1904)) also recognizes the importance of the interaction between asset prices and the availability of funding sources, and the interaction between liquidity and solvency. For example, on the downside Minsky notes that:

> The fall of asset prices and the "tightening" of normal sources of financing are, in this view, the essential ingredients financial crises and the process that leads to a deep depression. […] In a crisis due to systemic conditions, the need to sell assets to make position causes a fall in the prices of assets and decreases investment. […] As investment decreases profits of banks and businesses decline. This further decreases asset values. (Campbell and Minsky 1987: 256)

The process works in a reverse manner during an expansion, as the Geneva report notes. However, the report fails to explain why this process emerges in the first place. Minsky noted that this was not mainly the result of greed, fraud, lack of foresight, poor financial education, asymmetry of information, mispricing, or any other "imperfection" of markets and individuals. On the contrary, he noted that a period of economic stability contains the seeds of instability. Indeed, economic stability justifiably improves the confidence of individuals, decreases their risk aversion, and, among other things, leads to a saturation of existing markets (Tymoigne forthcoming). Thus, not only are individuals and companies willing to lower their margins of safety, to take more risk, and to be more financially creative, but they are *forced* to do so by market mechanisms in order to maintain their profitability and market shares:

> In this framework, crises are not due to the special characteristics of any institution; crisis-prone situations emerge out of the normal profit-seeking activities of borrowers and lenders [over periods of enduring expansion]. The shift in the financial posture of units from hedge to speculative (rollover) and Ponzi (capitalizing of interest) characterizes the evolution from a robust financial structure, where most failures are due to idiosyncratic

> attributes, to a fragile one, where systemic conditions are responsible for a large number of failures. (Campbell and Minsky 1987: 256)

This is in sharp contrast to the view of most economists who argue that market mechanisms are stabilizing. For Minsky, market mechanisms are destabilizing, and, more broadly, any economic institution is dialectical in nature by promoting growth and innovation but also by promoting economic instability (Tymoigne 2009).

This view of the economic process led Minsky, and other economists following is framework of analysis (e.g. Guttentag and Herring 1988), to recognize the importance of systemic regulation a long time ago, and it is good to see that some economists finally recognize the relevance of this approach. As Minsky noted:

> When conceived in terms of bank runs and defaults, a particular bank fails because of its own, idiosyncratic attributes. Its management has been incompetent or committed fraud. Such a failure may have repercussions on other banking institutions, in that for a time financial markets fail to work normally. This creates transitory refinancing problems for otherwise solvent banks. If refinancing problems persist and are sufficiently severe, they can cause a drop in asset prices large enough to cause otherwise solvent banks to fail […] A more complete description of the instability of an "economy with banking" needs to look behind the runs and analyze the structure of balance sheets payment commitments and position-making activities. Position-making for a bank consists of the transactions undertaken to bring the cash position to the level required by regulation or bank management. In the position-making view, bank failures do not arise simply because of incompetent or corrupt management. They occur mainly because of the interdependence of payment commitments and position-making transactions across institutions and units. (Campbell and Minsky 1987: 255-256)

All this summarizes what the report stated regarding the limited relevance of the domino effects to explain crisis, and the relevance of the spirals that they noticed. Position-making risk, i.e., what the report calls funding-liquidity risk and market-liquidity risk, is indeed central to the development of a financial crisis and needs to be analyzed in details. Defaults and runs do not mostly happen by accident, lack of luck, and imperfections; their probability of occurrence increases over a period of economic expansion because position-making risk increases as financial positions progressively move from hedge to Ponzi. Therefore, one needs to understand

how position-making risk emerges and grows (hence the role of the financial instability hypothesis) and to figure out ways to prevent, or at least to constrain, its growth.

Overall, in terms of theoretical framework and main policy implications, the report is, therefore, pretty close to Minsky. However, we are not sure that the report fully agrees with the Minskyan view, especially the financial instability hypothesis, which provides an explanation of why these dynamics exist in the first place. As shown below, the policy proposals of the report seem to give a hint that the authors of the Geneva report are not willing to go all the way toward Minsky's framework of thought.

Like for previous reports, the main aim of the Geneva report is to find ways to improve risk management by introducing the importance of liquidity and by improving the measurement of potential risk. In the report, this goes by proposing reforms that would make risk management more countercyclical and that would depend on rules rather than discretion. As the report correctly notes, it is important to find ways to make regulation bit when everybody complains about it and when it goes against the pursuit of business as usual. This is especially important over long periods of economic stability that have recorded years, if not decades, of smooth growth, and during times when business must find ways to grow by all means in order to maintain their competitiveness and to meet the demands of their stakeholders:

> To some extent, […] all risk management tools are unable to model/present the most severe forms of financial shocks in a fashion that is credible to senior management. […] To the extent that users of stress tests consider these assumptions to be unrealistic, too onerous, not strenuous enough, incorporating unlikely correlations or having similar issues which detract from their credibility, the stress tests can be dismissed by the target audience and its informational content thereby lost. (Counterparty Risk Management Policy Group III 2008: 70, 84)

> Anyone who thinks you can run bank regulation independent from the general political climate doesn't understand. Suppose the Federal Reserve would have decided to be tougher in the seventies. There would have been an outcry, from the banks and the congressmen who get their contributions, from everyone who was sold on deregulation. "What the hell are you talking about? We haven't had a banking loss for thirty years. So what the hell are you doing with new regulations?" Congressmen would come at us.

> "Why do you regulators think you know more than our bank CEOs?" (Volcker in Greider [1987: 439-440])

Thus, periods of extended economic stability and strong competition can put tremendous political pressures on regulators and supervisors to be lenient if discretion is too high, and can lead to situations in which they are blamed for eroding the competitiveness of companies by being "too picky."

This countercyclical risk management strategy has some merits and will probably help to discouraged some risk-takers for a while. Regarding, mark-to-funding this may help indeed to account for price risk and is definitely an improvement over mark-to-market, even though, as the report recognizes, this may not help some institutions that are already matched in the short-term. Regarding, the need to make CAR more dependent on systemic risk, this was something that Minsky advocated a long time ago. In fact, he was highly critical of the Basel I Accord because of its lack of consideration for systemic risk:

> All the proposed reforms raise operating expenses or reduce profits of banks that examiners find to be in a higher risk class. Raising the operating costs of banks who, because of changes in systemic conditions, have become riskier will only make those institutions more vulnerable to failure. Risk-related premiums or risk-adjusted capital requirements would be pro-cyclical, worsening the condition of banks just when other operating costs are rising and profits are being squeezed. If implemented at all, risk-related premiums should be adjusted downward for systemic conditions even as they are raised for the presumed riskier institutions. (Campbell and Minsky 1987: 258)

The Geneva report shows very well how relevant this position is.

However, this willingness to improve risk management rather than reform financial regulation and supervision in a more radical way has several flaws. First of all, it is a fact of life that in a society in which people are free to choose, they hate being told what to do or to be constrained in their decisions, especially financial decisions. This is all the more so when those regulatory constraints are in the way of lucrative business activities, competitiveness, large egos, and immediate improvement in the standards of living. As a consequence, people and companies will adapt to the new regulatory framework and will innovate their financial practices in order to bypass (government and private) regulatory constraints. Given that dramatic changes in regulation only occur during crises and are done mostly with the input of financial institutions

(which then know all the regulatory holes in the new law), the innovative drive is sure to make the new regulatory framework very rapidly irrelevant. Again, Minsky was ahead of all of us on this issue:

> To the extent that the examination procedure lags rather than anticipates financial innovation, higher insurance premiums [and capital requirements] on what examiners take to be riskier institutions may not be a deterrent to risk-taking. In an expanding economy, the increased cost of doing business caused by higher deposit insurance premiums [and capital requirements] will be an incentive for banks to invent new, unregulated forms of financing. (Campbell and Minsky 1987: 258)

Thus, we need something different from a reactive and rigid regulation of risk practices:

> Anticipatory vigilance upon the part of the regulators is required to prevent increased risk exposure. But such vigilance, combined with intelligence, could contain particular unit risk exposure without the imposition of risk-related premiums or capital requirements. (Campbell and Minsky 1987: 258)

Having a proactive and flexible regulatory framework that constantly accounts for financial innovations and includes them immediately in regulations would be much better than improving risk-management.

A second problem with the view that improving risk management will improve financial stability, is that it is a highly permissive policy. Basically, financial institutions are allowed to do whatever they want as long as they meet the regulatory requirements defined by the norms. It does not matter what financial practices they have and how excessive the risk they take is, as long as capital is "high enough" and that they have a "prudent" maturity matching and amount of reserves. Unfortunately, matched maturities, low leverage ratio and high liquidity ratio are not necessarily a reflection of prudent and well-managed business, and a company may be able to sustain those ratio only by participating in a Ponzi process (either as a direct manager, or, more seriously, as part of the growth process of the overall economy). To take an analogy, it does not matter how many times a day a kid brushes his teeth, eating candy continuously will result in cavities and a diabetic condition. As we stated earlier, it does not matter how stringent prudential ratios are, nor how fine-tuned they are (the number of times the kid must brush his teeth depends

on the sugar content of the candy); they are not tackling the problem at its core (the kid eats too many candies)[1] and the collapse of a Ponzi process will very rapidly wipe them out.

Third, as the report notes, setting the appropriate weight on maturity mismatch and other proxies of systemic risk is heavily influenced by our current experience. Overtime, financial institutions may claim that this weight is too stringent and does not reflect the fact that the institutional framework has changed and that financial innovations are now better able to account for systemic risk. They will put forward, as ultimate proof, the "long" period of stability and record profitability and competitiveness. As a consequence, there may be pressures to lower the weight attached to systemic risk, or pressures to overlook facts that may call for rising CAR. This is so even if CARs are set in function of a rule and it may take the form of a legalization of new "creative" accounting practices. In addition, setting too stringent weights will constrain economic growth and will draw further complaints.

All these problems lead to a fourth problem. Indeed, bad regulation is destabilizing and creates perverse incentives that compound the weaknesses of an existing regulatory framework. Thus, inappropriate regulation and supervision may contribute to the emergence and diffusion of a Ponzi process at the level of the overall economy.

Overall, therefore, we need something better than a new reactive regulatory and supervisory framework. We need a proactive framework built around the core concept of position-making operations coupled with the financial instability hypothesis. This regulatory framework would not be based on institution, function, or product but on the financial practices of specific entities, a sector of the economy, and the whole economy. This practice would guide proposed changes in institutional structures and the regulation of financial products. This regulatory framework would be far reaching, would be quickly adaptable and would be applied to all financial institutions without exception, and would involve the participation of many participants of society, not just the financial sector. All this brings forward the notion of Ponzi finance that is partly tackled in the report through its focus on maturity matching. This is an important and highly relevant point but it is not sufficient.

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[1] The interesting twist with market mechanisms is that eating candy continuously may be a requirement of the "invisible hand" in order to prolong (temporarily) competitiveness and economic survival. As a consequence, this behavior may have strong economic, social, and political backing (coupled with strong patriotic sentiments). The temporary survival of entire economic sectors may depend on such a "judicious" behavior. If that is the case, it means that sooner or later, unless massive restructuring occurs, those economic sectors are doomed to disappear (probably after a long and painful agony). Promoting a systemic view of financial stability based on detecting Ponzi finance would help to restructure an industry sooner and in a less painful way.

First, as we have noted previously the crucial matter that determines Ponzi finance is cash-flow mismatch, i.e., the fact that net cash flows from operation are expected to be too low to meet cash outflows on debt commitments. Even if maturities are matched, there may still be a need to refinance and liquidate. In fact, many deals are structured in such a ways that liquidation is a prerequisite for the success of the project. The spirals that the Geneva report puts forward are not eliminated by matching maturity, what we need is a refocus of banking activity toward cash-flow rather that collateral value:

> A cash-flow orientation by bankers is conducive to sustaining a robust financial structure. An emphasis by bankers on the collateral value and the expected values of assets is conducive to the emergence of a fragile financial structure (Minsky 1986 [2008]: 261)

This point was discussed earlier in reference to the measurement of creditworthiness. Bankers need to play their role of skeptics and need to analyze painstakingly the sources of cash inflow of a customer, while not qualifying those who only meet the demands of a financial product on the basis of further access to refinancing or liquidation.

Second, maturity mismatch does not deal with the dynamics of the financial instability hypothesis, i.e. the fact that banks, entrepreneurs, and households are willing, and are forced, to take more risk as the economic expansion goes on:

> None of the reforms creates a mechanism to correct for disaster myopia. Disaster myopia is the tendency for the subjective probability of disaster to decline with the passage of time as the experience of the previous disaster recedes from memories. […] The structure of deposit insurance and countercyclical monetary and fiscal policy that are used successfully contain a crisis in one period are not likely to permanently stabilize a monetary economy in which financial innovations occur in response to profit opportunities. Recent innovations in the securitization of assets and the globalization of finance have introduced risks of financial dislocations that are only peripherally related to those the authorities are set up to handle. (Campbell and Minsky 1987: 259)

This notion of disaster myopia (taken from Guttentag and Herring [1984]) deals in part with the willingness to take more risk. Economic entities also are required to take more risk as the expansion persists because markets saturate, which leads to financial innovations requiring more leverage to compensate for declining returns, and to the courting of riskier borrowers to maintain lending volumes. Thus, given a maturity mismatch, over periods of expansion the margins of

safety of hedge finance positions decline (which generates a higher probability that hedge finance will turn speculative or Ponzi) and the proportion of Ponzi processes grow.

Maturity mismatch, as measured by the Geneva report (effective maturity), still does not help to solve problems induced by the need to liquidate assets and the spirals analyzed previously. Indeed, the liquidation of an asset, even a very liquid asset, may only occur at a huge discount, leading to insufficient cash inflow to meet demands on creditors. Similarly on the liability side, in periods of crisis, creditors demand accelerated repayment schedules and lower available credit lines, which reduces dramatically the effective maturity of liabilities (Rudolf 2009). Thus measuring the latter during good times will hide potential risks, and measuring it based on crisis periods will lead to complaints by banks during periods of stable economic activity. Finally, the notion of effective maturity shows that, in fact, what matters are cash-flow patterns and the detection of cash-flow mismatches. For example, say that an economic entity has a perfect maturity matching with a 10-year fully amortized promissory note on its asset side and a 10-year unamortized debt on its liability side. Even though both maturities are matched, the cash-flow pattern of those two sides is extremely different, leading probably to a need to refinance in 10 years.

Overall, therefore, the report has some important recommendations that are drawn from a framework partially similar to Minsky. However, the report does not go the whole way in terms of the regulatory implications. It is a minimalist "light-touch" approach that, like the reforms of the past thirty years, involved playing on incentives and letting people decide based on those incentives. Businesses and people are supposed to know best and to be guided properly by the "invisible hand" of the "market" to fulfill their own interest and to promote social harmony altogether. We need a stronger regulation that constrains financial practices because market mechanisms *always* end up generating financial instability, no matter how well-informed and well-behaved individuals are; something that the Geneva report probably does not accept. We need a regulation that promotes strong financial practices and constructive competition, and this requires the visible hand of the government rather than a promotion of pure and perfect competition (through an improvement of the transparency of information and other market mechanisms). Excessive risk should not be allowed because the latter is characterized by very high unexpected losses, which means that capital and liquidity will evaporate rapidly even if "prudent" management risk is followed. By focusing on detecting, discouraging and, if necessary, forbidding Ponzi financial practices, regulation will take a large step toward directly managing

excessive risk taking as well as frauds. This can be done by having independent accountable and powerful supervisory agencies that prosecute crooks, terminate all pyramid Ponzi processes, monitor innovations, create a patent system, and focus regulation on systemic risk through frequent meetings involving many parts of the economy and through the development of measures of cash flows and position-making risks.

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